Operator's Safety and Service Manual

VIBRATION SUPPRESSOR & ERGOTAMP

This manual covers the following serial numbers and higher for each model listed:

VS77.....1110640
VS77M.....1110640
ErgoTamp....2110258

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SAFETY INFORMATION

Introduction

This Safety Alert Symbol is used to call attention to items or operations which may be dangerous to those operating or working with this equipment. The symbol can be found throughout this manual and on the unit. Please read these warnings and cautions, along with all decals, carefully before attempting to operate the unit. Make sure every individual who operates or works with this equipment is familiar with all safety precautions.

WARNING

GENERAL WARNING. Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.

CAUTION

GENERAL CAUTION. Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment.

Safety Precautions

LETHAL EXHAUST GAS: An internal combustion engine discharges carbon monoxide, a poisonous, odorless, invisible gas. Death or serious illness may result if inhaled. Operate only in an area with proper ventilation. NEVER OPERATE IN A CONFINED AREA!

SAFETY GUARDS: It is the owner's responsibility to ensure that all guards and shields are in place and in working order.

SAFE DRESS: Do not wear loose clothing, rings, wristwatches, etc. near machinery.

NOISE PROTECTION: Wear OSHA specified hearing protection devices.

EYE PROTECTION: Wear OSHA specified eye shields, safety glasses, and sweat bands.

FOOT PROTECTION: Wear OSHA specified steel-tipped safety shoes.

HEAD PROTECTION: Wear OSHA specified safety helmets.

DUST PROTECTION: Wear OSHA specified dust mask or respirator.

OPERATOR: Keep children and bystanders off and away from the equipment.

REFERENCES: For details on safety rules and regulations in the United States, contact your local Occupational Safety and Health Administration (OSHA) office. Equipment operated in other countries must be operated and serviced in accordance and compliance with any and all safety requirements of that country. The publication of these safety precautions is done for your information. MBW does not by the publication of these precautions, imply or in any way represent that these are the sum of all dangers present near MBW equipment. If you are operating MBW equipment, it is your responsibility to insure that such operation is in full accordance with all applicable safety requirements and codes. All requirements of the United States Federal Occupational Safety and Health Administration Act must be met when operated in areas that are under the jurisdiction of that United States Department.

Safety Decals

The MBW Vibration Suppressor has a warning scribed into the body tube of the device. If this warning becomes damaged or unreadable, replace outer tube. This component is available from authorized MBW distributors.

SPECIFICATIONS

	VS77	Ergo-Tamp	Pole-Tamp
Operating Weight	6.8 lb (3.1 kg)	48 lb (22 kg)	38 lb (17 kg)
Length	17 in (43 cm)	56 in (142 cm)	
Foot Diameter	--	6.0 in (15 cm)	
Maximum Pressure	140 psi (965 KPa)	90 psi (620 KPa)	
Air Consumption	--	38.5 cfm (1.1 m^3/m)	
Vibration Isolation	up to 77%*		None
Blows per Minute	--	800 @ 90 PSI	

Specifications subject to change without notice

* Under ideal conditions, actual vibration isolation may vary with compactor type and compaction conditions

OPERATION

Introduction

MBW equipment is intended for use in very severe applications. The Vibration Suppressor is available in a variety of configurations.

This parts manual contains only standard parts. Variations of these parts as well as other special parts are not included. Contact your local MBW distributor for assistance in identifying parts not included in this manual.

Installation

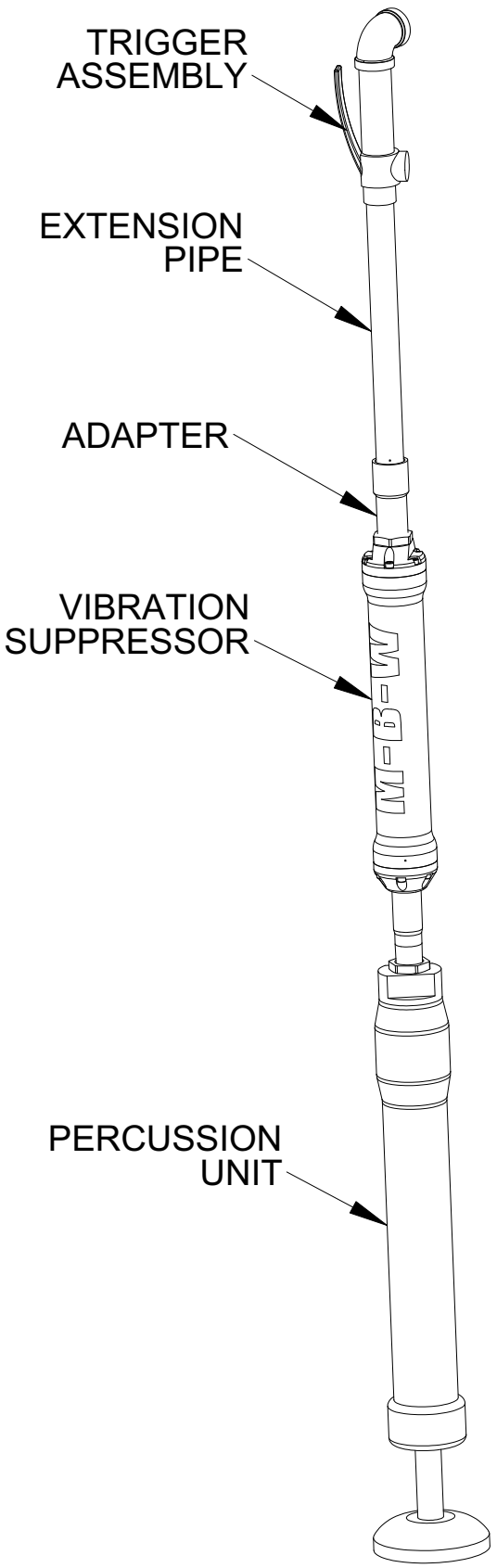
- The MBW Vibration suppressor is intended to be installed on a variety of pneumatic pole tampers.
- Connection adapters are included with some models to add flexibility to installation

1. Disconnect air supply to tool and make sure all air pressure is released
2. Unscrew connector pipe between trigger assembly and main percussion unit
3. Attach “ROD” end of the Vibration Suppressor to the main percussion unit. Tighten connection using a supplied lock-nut
4. Attach trigger assembly to other end of the Vibration Suppressor. Tighten connection using a supplied lock-nut

- Depending on Pole Tamper style, adapters may be needed to make connections
- To ensure connections stay tight, MBW recommends using a medium strength thread locker on all connections
- To lengthen the pole tamper assembly, it is recommended that the added pipe section be placed above the Vibration Suppressor

Before Starting & Operating

- REMEMBER! It is the owner’s responsibility to communicate information on the safe use and proper operation of this unit to the operators.
- Review ALL of the Safety Precautions listed on page 1 of this manual.
- Familiarize yourself with the operation of the machine and confirm that all controls function properly.
- Know how to STOP the machine in case of an emergency.



- Make sure hands, feet, and clothing are at a safe distance from any moving parts.
- The MBW Vibration Suppressor should only be run with clean and dry compressed air. The use of an oil mist lubrication system will improve the life of both the Vibration Suppressor and the pole tamper
- Verify that all joints are tight

Operating Ergo and Pole tamps

⚠ WARNING ⚠

Follow all recommended operating procedures of pole tamper manufacturer. Failure to do so could result in serious bodily injury or death.

1. Connect air supply hose to trigger assembly
2. Grasp pole tamper assembly on the main body of the Vibration Suppressor or anywhere above

⚠ WARNING ⚠

Do not place any part of body above pole tamper assembly. Device will "Jump" when air is activated.

3. Depress trigger to begin tamping.
4. Release trigger to stop device.

⚠ CAUTION ⚠

PINCH HAZARD: Avoid placing hands below main body of the MBW Vibration Suppressor

- The MBW Vibration Suppressor is a spring loaded device. Efficiency of isolation will depend on many factors including air pressure, pole tamper type and operator input. When operating, try to find the correct down pressure that results in the least amount of transmitted vibration.

Storage

- The MBW Vibration Suppressor is made of high quality corrosive resistant components. To lengthen the life of the entire tamper assembly, drop a small amount of light oil into trigger assembly and run device for a minute before long term storage.

MAINTENANCE

⚠ WARNING ⚠

Always exercise the stopping procedure before servicing or lubricating the unit.

After servicing the unit, replace and fasten all guards, shields, and covers to their original positions before resuming operation.

⚠ CAUTION ⚠

Always verify fluid levels and check for leaks after changing fluids.

Do not drain oil onto ground, into open streams, or down sewage drains.

Maintenance Schedule

SYSTEM	MAINTENANCE	DAILY	EVERY 50 HOURS	EVERY 250 HOURS	YEARLY
Tamper	Check oil level	X			
	Check for oil leaks	X			
Hardware	Check and tighten as needed[1]		X		X

1. Check all hardware after the first 5 hours of use, then follow the maintenance schedule.

Fluid Levels

SYSTEM	FLUID VOLUME	RECOMMENDED OIL
TAMPER	Use external oiler	15W50 Air Tool Oil[1]
Engine	Refer to engine operator/owner manual	

1. MBW #19692---- 1 quart (32 oz)

Tamper Oil

The MBW tamper requires an inline oil supply to function. Use of the tamper without an inline oiler will damage the internal surfaces. A suitable oiler can be purchased through MBW, Part #12248.

In event the tamper will be stored, pour several ounces of oil into the line to prevent corrosion.

Vibration Suppressor Oil

The MBW Vibration suppressor is an Oil-free device, However use of an inline oiler will lengthen the tool's life span.

Assembly and disassembly should be performed by a service technician who has been factory trained on MBW equipment. The unit should be clean and free of debris. Pressure washing before disassembly is recommended.

- Prior to assembly, wash all parts in a suitable cleaner or solvent.
- Check moving parts for wear and failure. Refer to the Replacement section in this manual for tolerance and replacement cycles.
- All seals and bearings should be oiled prior to assembly. Also, ensure that the seals are inserted square and are seated properly.
- Leaking air caused by worn seals will decrease performance of pole tamper.

General

The disassembly and assembly procedures given here are intended for a complete dismantling of the MBW Vibration Suppressor. Read the following sections carefully.

Vibration Suppressor Disassembly

Refer to Vibration Suppressor Assembly, page 10

1. Remove vibration suppressor from pole tamper.
2. Place the vibration suppressor in a vise and heat main tube (#8) near end to loosen loctite. Using a pin spanner wrench, unscrew bottom cap (#11) from main tube. Use caution not to melt seals and wipers inside bottom cap.
3. Slide entire assembly out of main tube.
4. Remove bottom cap (#11) from rod assembly (#16).
5. Heat main tube near top end to loosen loctite securing top cap. Using wrench flats, remove the top cap assembly.
6. If the spring (#2) is damaged, remove 2 screws (#15) to release spring. These screws are secured with high strength thread locker, heat before attempting removal.

- Seal and wiper (#5 & #4) will become damaged if removed from bottom cap (#11). Replace both items when removed.

Vibration Suppressor Assembly

Refer to Vibration Suppressor Assembly, page 10

1. Thoroughly clean and inspect all components before re-assembling. Replace any parts that are damaged or worn.
2. Secure spring (#1) to cap (#11) with 2 screws (#15). Use high strength thread locker and thread locker primer.
3. If wiper and seal (#4 & #5) were removed, insert new seal (#5) into middle groove of bottom cap (#13) and wiper (#4) into bottom groove. The use of air tool oil will aid assembly. Be careful not to excessively bend or tear the components. See detail on Vibration Suppressor Assembly, page 10 for item orientation.
4. Insert bearing (#6) into bottom cap.
5. Slide spring (#1) over rod (#16), wrap bearing (#6) around puck and install into main tube (#8). Use a light film of oil to aid installation.
6. Apply a light film of oil inside the end cap assembly (#11). Slide the end cap over the rod assembly using care not to cut the seal or wiper. Apply primer and medium strength thread-locker to bottom cap threads and screw into main tube (#8). Tighten cap using a pin spanner wrench.
7. Apply primer and medium strength thread-locker to the external threads on the top cap. Screw the top cap (#9) into the main tube (#8). Tighten by using wrench flats on cap.
8. Complete assembly by reinstall onto pole tamper.

Tamper Disassembly

Refer to Tamper Assembly, page 14.

1. Remove the connecting pipe or vibration suppressor, if equipped, and set aside.
2. Remove the clamp screw (#40) with an impact wrench and tap the tamper shoe off with a rubber mallet.
3. Unscrew the back head (#16).
4. Disassemble the valve assembly(#23-25). Pull the pin (#26) out with a twisting motion. Note the order and position of parts to assure proper reassembly later.
5. Remove the plunger (#30) through the top hole.
6. Pry the tab of the lock clip (#36) out and unscrew the packing nut (#37).
7. Use the plunger (#30) as a ram to remove the packing set (#33) and the guide bushings (#31 & #35). Put a container under the body of the tool to catch the parts as they may “pop” out.
8. To remove the muffler heat gently to make it more pliable.

Tamper Assembly

Refer to Tamper Assembly, page 14.

1. Replace O-rings (#32) on the guide bushings and replace the packing set (#33)
2. Insert the upper guide bushing (#31) into the cylinder (#27) using a mild soap solution as a lubricant.
3. Insert the packing set (#27) such that the thin solid base is closest to the shoe.
4. Use the mild soap solution again, insert the lower guide bushing (#35) into the cylinder until it seats against the packing set. The small diameter on the bottom of the bushing should be proud of the cylinder (#27) end.
5. Thread the packing nut (#37) on to the cylinder. Stop when the lower edge of the guide bushing(#35) and the packing nut are flush.
6. Lubricate the interior of the cylinder and the stem of the plunger (#30) with SAE 15W50 air tool oil and reinsert plunger. Packing nut may need to be loosened.

It is important the faces of the valve be lapped to a smooth and flat finish before reassembly.

7. Replace the lower valve block o-ring (#18) and twist the lower valve block (#25) into place.
8. Insert the dowel pin (#26) and center plate (#23). Lay valve disc (#24) into recess in center of plate.
9. Use a new O-ring (#19), and place the upper valve block (#22) over the center plate.
10. Tighten the blackhead (#16) down onto the cylinder. Be careful as to not dislodge the valve discs.
11. Tighten the packing nut (#37) hand tight, then back off to previous notch and snap the locking clip (#36) into place. Plunger should offer light resistance when pulled and spring back a small amount after released.
12. Position the tool in a horizontal orientation and cycle the tool in and out by hand. In both directions, resistance should build until close to the end of the stroke when it's released through the valve. If this release is not similar in both directions the valve is not sealed properly and the tool needs to be disassembled to be inspected. Re-lap or replace any parts that may be damaged by rust or deep scratches.
13. Use impact wrench to tighten the shoe (#38) and clamp screw (#40) onto shaft.
14. Tighten the connecting pipe (#12), or Vibration suppressor, if equipped, into the backhead(#16) as far as possible then tighten the locknut against the back head.

Suppressor Replacement Cycles and Tolerances

Bearings	When bearing material has deep gouges or is worn to 0.065" (1.65mm) or thinner
Seal and Wiper	When air leakage occurs
Springs	When significant wear is noticed
Tube	When inside of tube becomes scoured or galled
Shaft	When shaft become bent or surface becomes scratched

Tamper Replacement Cycles and Tolerances

Seal	Replace when tightening the packing nut no longer seals oil. See Tamper Assembly
Shaft	If shaft is bent it needs to be replaced

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Replacement Parts

The warranty is stated in this book on page 18. Failure to return the Warranty Registration Card renders the warranty null and void.

MBW has established a network of reputable distributors/ dealers with trained mechanics and full facilities for maintenance and rebuilding, and to carry an adequate parts stock in all areas of the country. Their sales engineers are available for professional consultation. If you cannot locate an MBW distributor in your area, contact MBW or one of our Sales Branches listed below.

When ordering replacement parts, be sure to have the following information available:

- Model and Serial Number of machine when ordering MBW parts
- Part Number, Description, and Quantity
- Company Name, Address, Zip Code, and Purchase Order Number
- Preferred method of shipping

REMEMBER - You own the best! If repairs are needed, use only MBW parts purchased from authorized MBW distributors.

Write Model Number here

Write Serial Number here

The unit's serial number can be found stamped in the main body.

Contact Information

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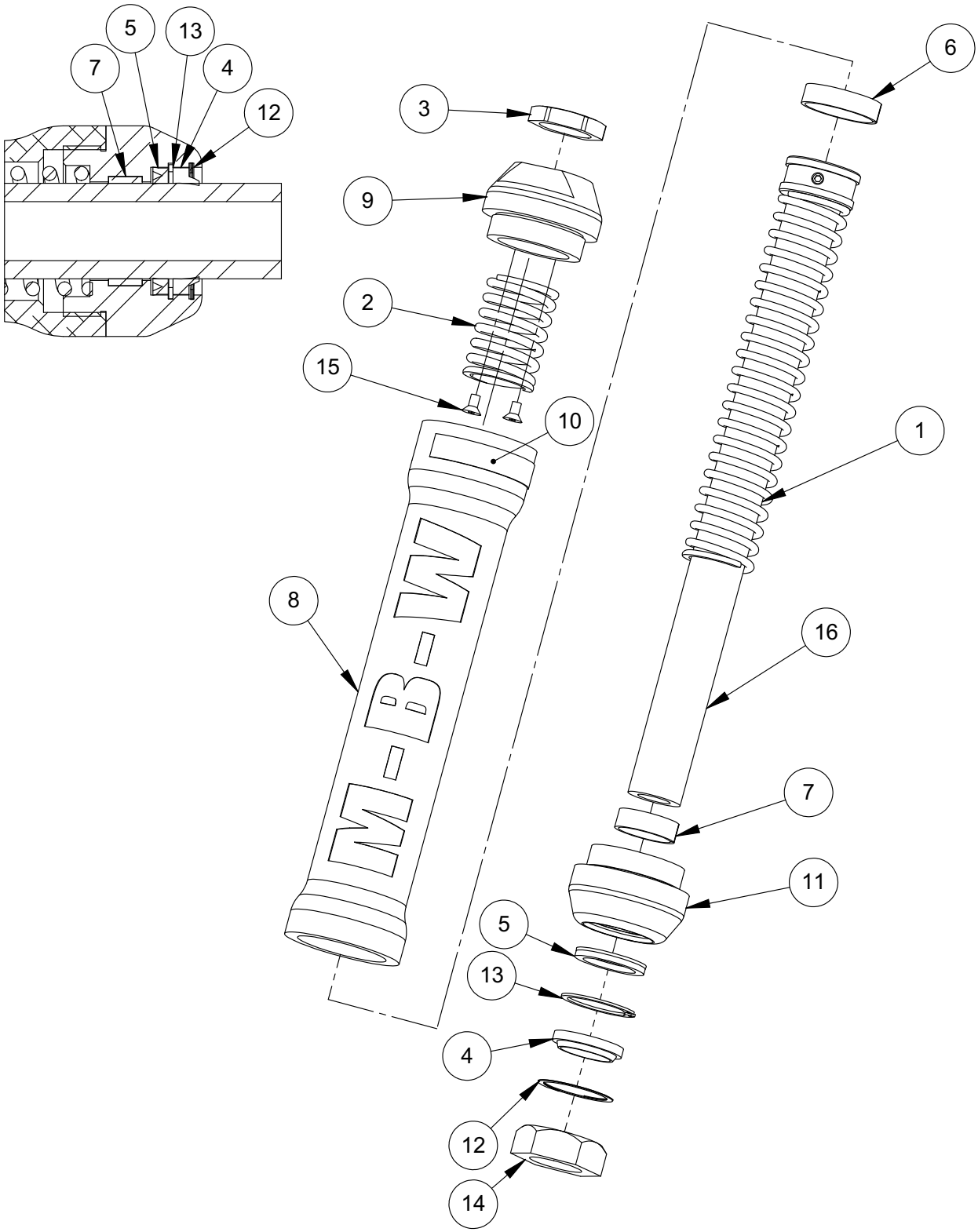
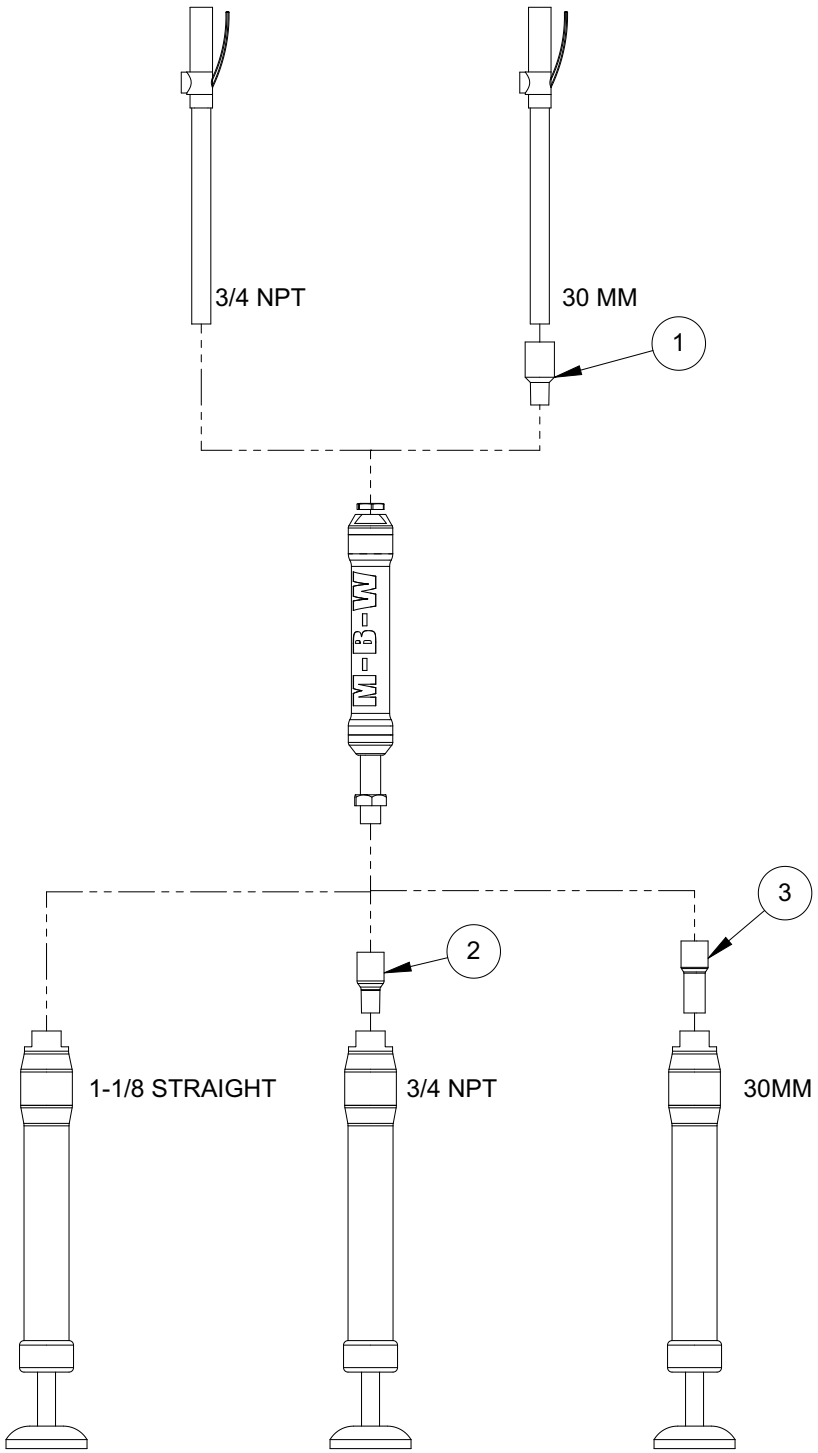


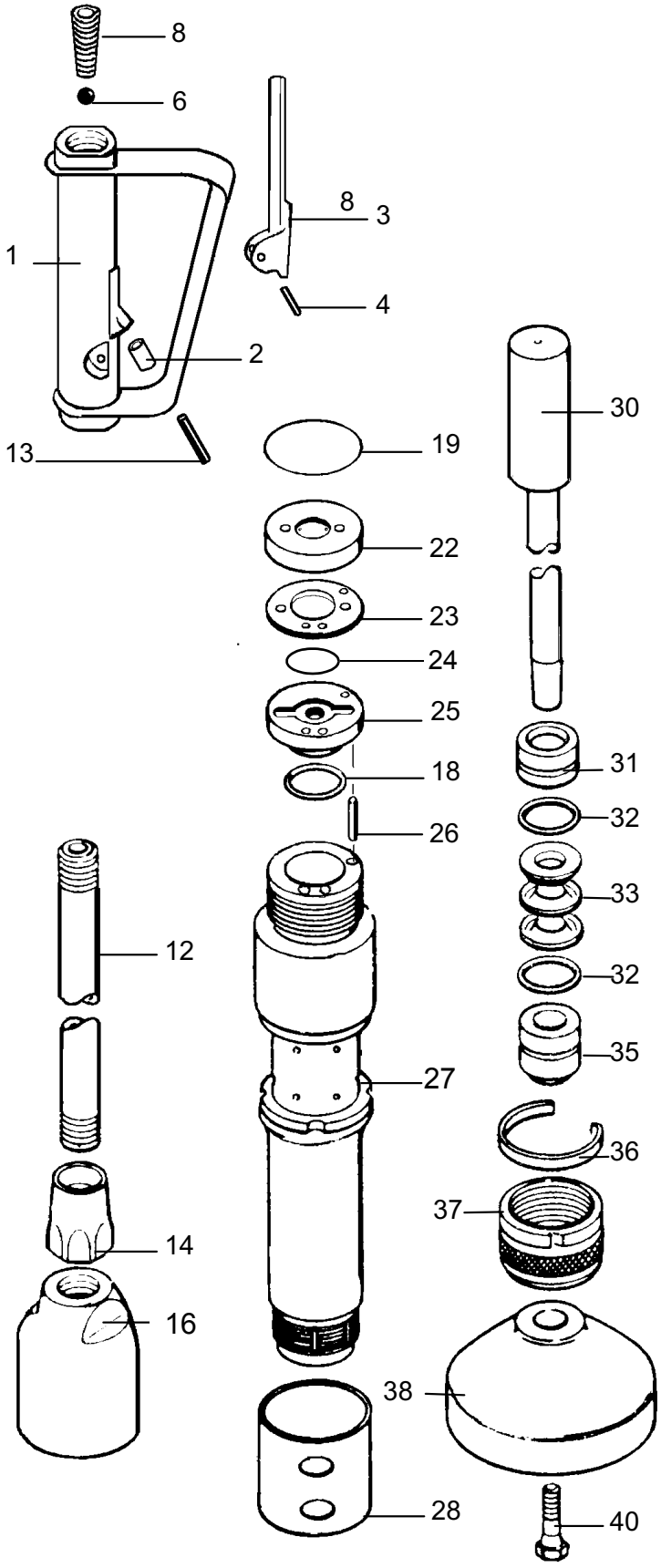
Vibration Suppressor Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1.	18495	SPRING, .162 X 1.52 X 9.00	1
2.	18494	SPRING .177 X 1.52 X 2.12	1
3.	18666	NUT, 3/4-14 NPT JAM	1
4.	18672	WIPER, SHAFT 1-1/8”	1
5.	18673	SEAL, SHAFT 1-1/8”	1
6.	18674	BEARING, PISTON	1
7.	18675	BEARING, GLAND	1
8.	18902	TUBE	1
9.	18906	CAP, TOP	1
10.	20286	DECAL, PATENT NO VS77	1
11.	20583	SUPPRESSOR CAP, BOTTOM	1
12.	20584	SPIRAL RING, INT 1.500	1
13.	20585	RETAINING RING, INT. 1.500	1
14.	F1812HJN	NUT, HEX JAM, 1 1/8-12 ZP	1
15.	F032403FSS	FSS, #10-24 X 3/8” ZP	1
16.	19830	SHAFT ASM, VS77, 1-1/8 UNF	1
	19794	KIT, HANDLE ASM	1



Threaded Adapters

ITEM	PART NO.	DESCRIPTION	QTY
1.	18713	ADAPTER, 30MM F X 3/4 NPT M	1
2.	19826	ADAPTER, 1 1/8 F X 3/4 NPT M	1
3.	19828	ADAPTER, 30MM M X 1-1/8 F	1
		*ITEMS 1 & 3 INCLUDED IN VS77M	
		ITEM 2 INCLUDED WITH VS77	



Tamper Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1.	PT6501G	THROTTLE BODY, BARE (WITH GUARD)	1
2.	PT6502G	PUSH PIN BUSHING	1
3.	PT6503	THROTTLE LEVER	1
4.	PT6504	THROTTLE LEVER FULCRUM PIN	1
6.	PT6446	THROTTLE BALL	1
8.	PT6139G	THROTTLE BALL SPRING	1
12.	PT6512	CONNECTING PIPE	1
	PT6512S	CONNECTING PIPE,. SHORT (FOR USE WITH VIBRATION SUPPRESSOR)	1
13.	PT6513G	PUSH PIN	1
14.	PT6514	CONNECTING PIPE NUT	1
16.	PT6516G	BACK HEAD	1
18.	PT6518	LOWER VALVE BLOCK O-RING	1
19.	PT6519G	UPPER VALVE BLOCK O-RING	
22.	PT6522G	UPPER VALVE BLOCK	1
23.	PT6523G	CENTER PLATE	1
24.	PT6524G	VALVE DISC	1
25.	PT6525G	LOWER VALVE BLOCK	1
26.	PT6526G	VALVE DOWEL PIN	2
27.	PT6527G	BARREL	1
28.	PT6528	EXHAUST DEFLECTOR (STEEL)	1
30.	PT6530	PLUNGER	1
31.	PT6531	UPPER GUIDE BUSHING	1
32.	PT6532	GUIDE BUSHING O-RING	1
33.	PT6533	PLUNGER PACKING SET	1
35.	PT6535	LOWER GUIDE BUSHING	1
36.	PT6536	PACKING NUT LOCK CLIP	1
37.	PT6537	PACKING NUT	1
38.	PT6538	6” MALLEABLE IRON BUTT	1
40.	PT6540	CLAMP SCREW	1
	PT6500G	THROTTLE BODY, COMPLETE (WITH GUARD)	
	PT6528R	EXHAUST DEFLECTOR (RUBBER)	
	PT6539	KIDNEY SHAPED POLE SHOE	

WARRANTY

WHAT DOES THIS WARRANTY COVER? MBW, Incorporated (MBW) warrants each New Machine against defects in material and workmanship for a period of twelve (12) months. "New Machine" means a machine shipped directly from MBW or authorized MBW dealer to the end user. This warranty commences on the first day the machine is sold, assigned to a rental fleet, or otherwise put to first use.

MBW warrants each Demonstration Machine against defects in material and workmanship for a period of six (6) months. "Demonstration Machine" means a machine used by MBW or its agents for promotional purposes. This warranty commences on the first day the machine is sold, assigned to a rental fleet, or otherwise put to first use.

This warranty covers the labor cost for replacement or repair of parts, components, or equipment on New Machines or Demonstration Machines, and MBW shall pay labor costs at MBW's prevailing rate to affect the warranted repair or replacement. MBW reserves the right to adjust labor claims on a claim-by-claim basis.

This warranty covers the shipping cost of replacement parts, components, or equipment via common ground carriers from MBW to an authorized MBW dealer. Air freight is considered only in cases where ground transportation is not practical.

MAY THIS WARRANTY BE TRANSFERRED? This warranty is non-transferable and only applies to the original end user of a new machine or demonstration machine.

WHAT DOES THIS WARRANTY NOT COVER?

1.This warranty does not cover any Used Equipment. "Used Equipment" means any MBW machine or equipment that is not a New Machine or a Demonstration Machine. All Used Equipment is sold **AS IS/WHERE IS WITH ALL FAULTS.**

2.This warranty does not cover any New Machine, Demonstration Machine, or their equipment, parts, or components altered or modified in any way without MBW's prior written consent. This warranty does not cover the use of parts not specifically approved by MBW for use on MBW products. This warranty does not cover misuse, neglect, shipping damage, accidents, acts of God, the operation of any New Machine or Demonstration Machine in any way other than recommended by MBW in accordance with its specifications, or any other circumstances beyond MBW's control. This warranty does not cover any New Machine or Demonstration Machine repaired by anyone other than MBW factory branches or authorized MBW distributors.

3.This warranty does not cover, and MBW affirmatively disclaims, liability for any damage or injury resulting directly or indirectly from design, materials, or operation of a New Machine or Demonstration Machine or any other MBW product. MBW's liability with respect to any breach of warranty shall be limited to the provisions of this document and in no event shall exceed an amount equal to the purchase price of the New Machine or Demonstration Machine purchased from MBW.

4.This warranty does not cover engines, motors, and other assemblies or components produced by other manufacturers and used on a New Machine or Demonstration Machine, as said engines, motors, and other assemblies or components may have warranties provided by the manufacturer thereof. This warranty does not apply to consumable items, such as v-belts, filters, trowel and screed blades, seals, shock mounts, batteries, and the like, all of which are sold AS IS/WHERE IS WITH ALL FAULTS.

5.This warranty does not cover the cost of transportation and other expenses which may be connected with warranty service but not specifically mentioned herein.

6.This warranty does not cover any updates to any New Machine, Demonstration Machine, or any other MBW product. MBW reserves the right to improve or make product changes without incurring any obligation to update, refit, or install the same on New Machines or Demonstration Machines previously sold.

WHAT MUST YOU DO TO OBTAIN WARRANTY COVERAGE? Each New Machine or Demonstration Machine is accompanied by a Warranty Registration Card. You must sign, date, and return the Warranty Registration Card to the place of origin of the New Machine or Demonstration Machine, either to MBW, Inc. at P.O. Box 440, Slinger, Wisconsin 53086, MBW (UK), Ltd. at Units 2 & 3 Cochrane Street, Bolton BL3 6BN, United Kingdom or MBW FRANCE SARL at ZA D'Outreville, 5 Rue Jean Baptiste Neron, Bornel 60540 France, within ten (10) days after purchase, assignment to a rental fleet, or first use. This signed warranty card is the buyer's affirmation that he has read, understood, and accepted the warranty at the time of purchase. Failure to return the warranty card as specified herein renders the warranty null and void. In order to receive warranty coverage consideration, warranty claims must be submitted within thirty (30) days after the New Machine or Demonstration Machine fails. Warranty claims must be submitted to MBW, Inc., MBW (UK), Ltd. or MBW FRANCE SARL, and written authorization for the return of merchandise or parts under the warranty must be obtained before shipment to MBW.

WHAT WILL MBW DO? MBW's obligation under this warranty is limited to the replacement or repair of parts for a New Machine or Demonstration Machine at MBW factory branches or at authorized MBW distributors, and such replacement or repair is the exclusive remedy provided hereunder. Labor must be performed at an authorized MBW distributor. MBW reserves the right to inspect and render a final decision on each warranty case, and MBW's repair or replacement is solely within the discretion of MBW.

IT IS EXPRESSLY AGREED THAT THIS SHALL BE THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY. UNDER NO CIRCUMSTANCES SHALL MBW BE LIABLE FOR ANY COSTS, LOSS, EXPENSE, DAMAGES, SPECIAL DAMAGES, INCIDENTAL DAMAGES, OR PUNITIVE DAMAGES ARISING DIRECTLY OR INDIRECTLY FROM THE USE OF THE NEW MACHINE OR DEMONSTRATION MACHINE WHETHER BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER LEGAL THEORY.

THE FOREGOING WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR USE, AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER OBLIGATIONS OR LIABILITY ON MBW'S PART. MBW NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME ON BEHALF OF MBW ANY OTHER LIABILITY OR WARRANTY IN CONNECTION WITH THE SALE OR SERVICE OF ANY NEW MACHINE, DEMONSTRATION MACHINE , OR ANY OTHER MBW PRODUCT.

EXTENDED RAMMER WARRANTY - MODELS R422, R442, R482 & R483.

This extended warranty commences on the last day of MBW's standard, one year, "limited warranty" and runs for an additional four years (48 months). This extended warranty is limited to part replacement and shipping costs of rammer **bellows and non-metallic slide bearings only.** This extended warranty does not cover labor, down time, or any other cost beyond that of component replacement and freight. This extended warranty is subject to all limitations set fourth in MBW's "limited warranty", above.

NOTES

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